



THE PRIMARY CARE COMPANION FOR CNS DISORDERS

Supplementary Material

Article Title: Direct and Indirect Costs Among Caregivers of Patients With Major Depressive Disorder and Suicidal Ideation of Suicidal Attempt

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DOI Number: <https://doi.org/10.4088/PCC.20m02893>

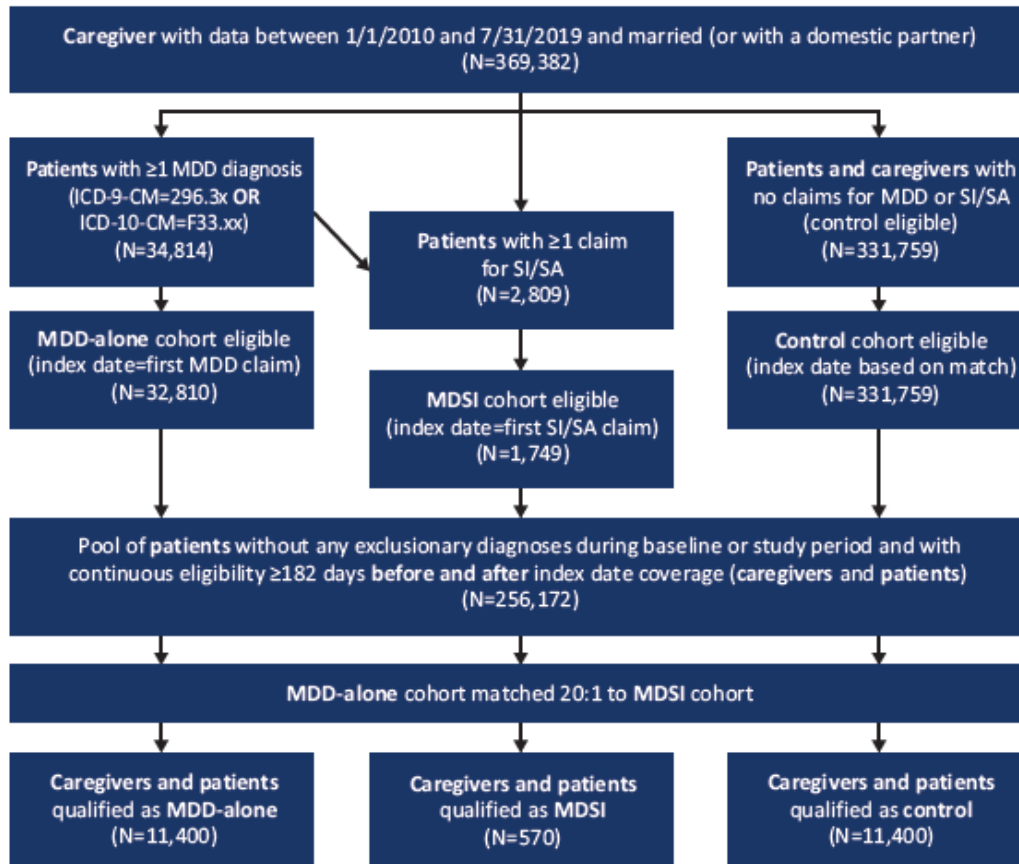
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Supplemental Figure 1. Patient Identification Flowchart for the Study Period from January 1, 2010, to July 31, 2019



Supplemental Table 1. Inclusion Diagnosis Codes

Condition	ICD type	Category	Code definition	Code range
Major depressive disorder	ICD-10s		Major depressive disorder, recurrent	F33.xx
			Major depressive disorder, recurrent episodes	296.3x
Suicide attempt or suicidal ideation	ICD-10	ISH with SI	Possible SA/ISH by CDC definition <i>and</i> must have SI (R45.851) at any point during the study period (Note that this defaults to index or post for this study, because if SI occurs before ISH, the person would be classified as SI.)	EXTERNAL-CAUSE CODES: X71-X83 DIAGNOSIS CODES: T36-T50, with the sixth character of the code = 2 (except for T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9, which are included if the fifth character of the code = 2)
		DX (“probable” SA) and SA, NOS	SA, NOS	DIAGNOSIS CODES: T51-T65, with the sixth character of the code = 2 (except for T51.9, T52.9, T53.9, T54.9, T56.9, T57.9, T58.0, T58.1, T58.9, T59.9, T60.9, T61.0, T61.1, T 61.9, T62.9, T63.9, T64.0, T64.8, and T65.9, which are included if the fifth character of the code = 2)
			Suicidal ideation	DIAGNOSIS CODE: T71, with the sixth character of the code = 2
		SI only	(but not meeting ISH with SI DX and SA, NOS)	DIAGNOSIS CODE: T14.91

		All injury or poisoning diagnoses	800-999
	Suspected	a cause-of-injury code indicating	
	suicide	intentional self-harm	
ICD-9	attempt ^(Simon 2018)	(codes E950–E958) or undetermined intent (codes E980–E989)	Self-harm (codes E950-E958) or undetermined intent (codes E980-E989)
	Suicidal	Suicidal ideation	V62.84
	ideation		

CDC = Centers for Disease Control and Prevention, DX = diagnosis, ISH = intentional self-harm, NOS = not otherwise specified, SA = suicide attempt, SI = suicidal ideation, SX = diagnosis

Supplemental Table 2. Bipolar Disorder/Mania Code Exclusions

Code	Code type	Description
296.0	ICD-9-CM	Bipolar I disorder, single manic episode
296.00	ICD-9-CM	Bipolar I disorder, single manic episode, unspecified
296.01	ICD-9-CM	Bipolar I disorder, single manic episode, mild
296.02	ICD-9-CM	Bipolar I disorder, single manic episode, moderate
296.03	ICD-9-CM	Bipolar I disorder, single manic episode, severe, without mention of psychotic behavior
296.04	ICD-9-CM	Bipolar I disorder, single manic episode, severe, specified as with psychotic behavior
296.05	ICD-9-CM	Bipolar I disorder, single manic episode, in partial or unspecified remission
296.06	ICD-9-CM	Bipolar I disorder, single manic episode, in full remission
296.4	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic
296.40	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, unspecified
296.41	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, mild
296.42	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, moderate
296.43	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, severe, without mention of psychotic behavior
296.44	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, severe, specified as with psychotic behavior
296.45	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, in partial or unspecified remission
296.46	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, in full remission
296.5	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed
296.50	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, unspecified
296.51	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, mild
296.52	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, moderate
296.53	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, severe, without mention of psychotic behavior
296.54	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, severe, specified as with psychotic behavior
296.55	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, in partial or unspecified remission
296.56	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, in full remission
296.6	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed
296.60	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, unspecified
296.61	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, mild

Code	Code type	Description
296.62	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, moderate
296.63	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, severe, without mention of psychotic behavior
296.64	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, severe, specified as with psychotic behavior
296.65	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, in partial or unspecified remission
296.66	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, in full remission
296.7	ICD-9-CM	Bipolar I disorder, most recent episode (or current) unspecified
296.8	ICD-9-CM	Other and unspecified bipolar disorders
296.80	ICD-9-CM	Bipolar disorder, unspecified
296.81	ICD-9-CM	Atypical manic disorder
296.82	ICD-9-CM	Atypical depressive disorder
296.89	ICD-9-CM	Other bipolar disorders
296.1	ICD-9-CM	Manic disorder recurrent episode
296.10	ICD-9-CM	Manic affective disorder, recurrent episode, unspecified
296.11	ICD-9-CM	Manic affective disorder, recurrent episode, mild
296.12	ICD-9-CM	Manic affective disorder, recurrent episode, moderate
296.13	ICD-9-CM	Manic affective disorder, recurrent episode, severe, without mention of psychotic behavior
296.14	ICD-9-CM	Manic affective disorder, recurrent episode, severe, specified as with psychotic behavior
296.15	ICD-9-CM	Manic affective disorder, recurrent episode, in partial or unspecified remission
296.16	ICD-9-CM	Manic affective disorder, recurrent episode, in full remission
F30	ICD-10-CM	Manic episode
F30.1	ICD-10-CM	Manic episode without psychotic symptoms
F30.10	ICD-10-CM	Manic episode without psychotic symptoms unspecified
F30.11	ICD-10-CM	Manic episode without psychotic symptoms mild
F30.12	ICD-10-CM	Manic episode without psychotic symptoms moderate
F30.13	ICD-10-CM	Manic episode, severe, without psychotic symptoms
F30.2	ICD-10-CM	Manic episode, severe with psychotic symptoms
F30.3	ICD-10-CM	Manic episode in partial remission
F30.4	ICD-10-CM	Manic episode in full remission
F30.8	ICD-10-CM	Other manic episodes
F30.9	ICD-10-CM	Manic episode, unspecified

Code	Code type	Description
F31	ICD-10-CM	Bipolar disorder
F31.0	ICD-10-CM	Bipolar disorder, current episode hypomanic
F31.1	ICD-10-CM	Bipolar disorder, current episode manic without psychotic features
F31.10	ICD-10-CM	Bipolar disorder, current episode manic without psychotic features unspecified
F31.11	ICD-10-CM	F31.11 Bipolar disorder, current episode manic without psychotic features mild
F31.12	ICD-10-CM	F31.12 Bipolar disorder, current episode manic without psychotic features moderate
F31.13	ICD-10-CM	F31.13 Bipolar disorder, current episode manic without psychotic features severe
F31.2	ICD-10-CM	F31.2 Bipolar disorder, current episode manic severe with psychotic features
F31.3	ICD-10-CM	F31.3 Bipolar disorder, current episode depressed, mild or moderate severity
F31.30	ICD-10-CM	F31.30 Bipolar disorder, current episode depressed, mild or moderate severity unspecified
F31.31	ICD-10-CM	F31.31 Bipolar disorder, current episode depressed, mild
F31.32	ICD-10-CM	F31.32 Bipolar disorder, current episode depressed, moderate
F31.4	ICD-10-CM	F31.4 Bipolar disorder, current episode depressed, severe, without psychotic features
F31.5	ICD-10-CM	F31.5 Bipolar disorder, current episode depressed, severe, with psychotic features
F31.6	ICD-10-CM	F31.6 Bipolar disorder, current episode mixed
F31.60	ICD-10-CM	F31.60 Bipolar disorder, current episode mixed unspecified
F31.61	ICD-10-CM	F31.61 Bipolar disorder, current episode mixed mild
F31.62	ICD-10-CM	F31.62 Bipolar disorder, current episode mixed moderate
F31.63	ICD-10-CM	F31.63 Bipolar disorder, current episode mixed severe, without psychotic features
F31.64	ICD-10-CM	F31.64 Bipolar disorder, current episode mixed severe, with psychotic features
F31.7	ICD-10-CM	F31.7 Bipolar disorder, currently in remission
F31.70	ICD-10-CM	F31.70 Bipolar disorder, currently in remission most recent episode unspecified
F31.71	ICD-10-CM	F31.71 Bipolar disorder, in partial remission, most recent episode hypomanic
F31.72	ICD-10-CM	F31.72 Bipolar disorder, in full remission, most recent episode hypomanic
F31.73	ICD-10-CM	F31.73 Bipolar disorder, in partial remission, most recent episode manic
F31.74	ICD-10-CM	F31.74 Bipolar disorder, in full remission, most recent episode manic
F31.75	ICD-10-CM	F31.75 Bipolar disorder, in partial remission, most recent episode depressed
F31.76	ICD-10-CM	F31.76 Bipolar disorder, in full remission, most recent episode depressed
F31.77	ICD-10-CM	Bipolar disorder, in partial remission, most recent episode mixed
F31.78	ICD-10-CM	Bipolar disorder, in full remission, most recent episode mixed
F31.8	ICD-10-CM	Other bipolar disorders
F31.81	ICD-10-CM	Bipolar II disorder

Code	Code type	Description
F31.89	ICD-10-CM	Other bipolar disorder
F31.9	ICD-10-CM	Bipolar disorder, unspecified

Supplemental Table 3. Dementia Code Exclusions

Code	Code type	Description
290	ICD-9-CM	Dementias
290.0	ICD-9-CM	Senile dementia, uncomplicated
290.1	ICD-9-CM	Presenile dementia
290.10	ICD-9-CM	Presenile dementia, uncomplicated
290.11	ICD-9-CM	Presenile dementia with delirium
290.12	ICD-9-CM	Presenile dementia with delusional features
290.13	ICD-9-CM	Presenile dementia with depressive features
290.2	ICD-9-CM	Senile dementia with delusional or depressive features
290.20	ICD-9-CM	Senile dementia with delusional features
290.21	ICD-9-CM	Senile dementia with depressive features
290.3	ICD-9-CM	Senile dementia with delirium
290.4	ICD-9-CM	Vascular dementia
290.40	ICD-9-CM	Vascular dementia, uncomplicated
290.41	ICD-9-CM	Vascular dementia, with delirium
290.42	ICD-9-CM	Vascular dementia, with delusions
290.43	ICD-9-CM	Vascular dementia, with depressed mood
290.8	ICD-9-CM	Other specified senile psychotic conditions
290.9	ICD-9-CM	Unspecified senile psychotic condition
291.2	ICD-9-CM	Alcohol-induced persisting dementia
292.82	ICD-9-CM	Drug-induced persisting dementia
294	ICD-9-CM	Persistent mental disorders due to conditions classified elsewhere
294.0	ICD-9-CM	Amnestic disorder in conditions classified elsewhere
294.1	ICD-9-CM	Dementia in conditions classified elsewhere
294.10	ICD-9-CM	Dementia in conditions classified elsewhere without behavioral disturbance
294.11	ICD-9-CM	Dementia in conditions classified elsewhere with behavioral disturbance
294.2	ICD-9-CM	Dementia, unspecified
294.20	ICD-9-CM	Dementia, unspecified, without behavioral disturbance
294.21	ICD-9-CM	Dementia, unspecified, with behavioral disturbance
331.0	ICD-9-CM	Alzheimer's disease
331.1	ICD-9-CM	Frontotemporal dementia
331.11	ICD-9-CM	Pick's disease

Code	Code type	Description
331.19	ICD-9-CM	Other frontotemporal dementia
331.2	ICD-9-CM	Senile degeneration of brain
F01	ICD-10-CM	Vascular dementia
F01.5	ICD-10-CM	Vascular dementia
F01.50	ICD-10-CM	Vascular dementia without behavioral disturbance
F01.51	ICD-10-CM	Vascular dementia with behavioral disturbance
F02	ICD-10-CM	Dementia in other diseases classified elsewhere
F02.8	ICD-10-CM	Dementia in other diseases classified elsewhere
F02.80	ICD-10-CM	Dementia in other diseases classified elsewhere without behavioral disturbance
F02.81	ICD-10-CM	Dementia in other diseases classified elsewhere with behavioral disturbance
F03	ICD-10-CM	Unspecified dementia
F03.9	ICD-10-CM	Unspecified dementia
F03.90	ICD-10-CM	Unspecified dementia without behavioral disturbance
F03.91	ICD-10-CM	Unspecified dementia with behavioral disturbance
G30	ICD-10-CM	Alzheimer's disease
G30.0	ICD-10-CM	Alzheimer's disease with early onset
G30.1	ICD-10-CM	Alzheimer's disease with late onset
G30.8	ICD-10-CM	Other Alzheimer's disease
G30.9	ICD-10-CM	Alzheimer's disease, unspecified
G31.0	ICD-10-CM	Frontotemporal dementia
G31.01	ICD-10-CM	Pick's disease
G31.09	ICD-10-CM	Other frontotemporal dementia
G31.1	ICD-10-CM	Senile degeneration of brain, not elsewhere classified

Supplemental Table 4. Intellectual Disability Code Exclusions

Code	Code type	Description
317, 318, 318.0, 318.1, 318.2, 319	ICD-9-CM	Mild intellectual disabilities; Other specified intellectual disabilities; Unspecified intellectual disabilities
F70, F71, F72, F73, F78, F79	ICD-10-CM	Intellectual disabilities: Mild, Moderate, Severe, Profound, Other, and Unspecified

Supplemental Table 5. Schizophrenia, Schizotypal, Delusional, and Other Nonmood Psychotic Disorders

Code Exclusions

Code	Code Type	Description
295	ICD-9-CM	Simple type schizophrenia
295.0	ICD-9-CM	Simple type schizophrenia, unspecified
295.01	ICD-9-CM	Simple type schizophrenia, subchronic
295.02	ICD-9-CM	Simple type schizophrenia, chronic
295.03	ICD-9-CM	Simple type schizophrenia, subchronic with acute exacerbation
295.04	ICD-9-CM	Simple type schizophrenia, chronic with acute exacerbation
295.05	ICD-9-CM	Simple type schizophrenia, in remission
295.1	ICD-9-CM	Disorganized type schizophrenia
295.10	ICD-9-CM	Disorganized type schizophrenia, unspecified
295.11	ICD-9-CM	Disorganized type schizophrenia, subchronic
295.12	ICD-9-CM	Disorganized type schizophrenia, chronic
295.13	ICD-9-CM	Disorganized type schizophrenia, subchronic with acute exacerbation
295.14	ICD-9-CM	Disorganized type schizophrenia, chronic with acute exacerbation
295.15	ICD-9-CM	Disorganized type schizophrenia, in remission
295.2	ICD-9-CM	Catatonic type schizophrenia
295.20	ICD-9-CM	Catatonic type schizophrenia, unspecified
295.21	ICD-9-CM	Catatonic type schizophrenia, subchronic
295.22	ICD-9-CM	Catatonic type schizophrenia, chronic
295.23	ICD-9-CM	Catatonic type schizophrenia, subchronic with acute exacerbation
295.24	ICD-9-CM	Catatonic type schizophrenia, chronic with acute exacerbation
295.25	ICD-9-CM	Catatonic type schizophrenia, in remission
295.3	ICD-9-CM	Paranoid type schizophrenia
295.30	ICD-9-CM	Paranoid type schizophrenia, unspecified
295.31	ICD-9-CM	Paranoid type schizophrenia, subchronic
295.32	ICD-9-CM	Paranoid type schizophrenia, chronic
295.33	ICD-9-CM	Paranoid type schizophrenia, subchronic with acute exacerbation
295.34	ICD-9-CM	Paranoid type schizophrenia, chronic with acute exacerbation
295.35	ICD-9-CM	Paranoid type schizophrenia, in remission
295.4	ICD-9-CM	Schizophreniform disorder
295.40	ICD-9-CM	Schizophreniform disorder, unspecified

295.41	ICD-9-CM	Schizophreniform disorder, subchronic
295.42	ICD-9-CM	Schizophreniform disorder, chronic
295.43	ICD-9-CM	Schizophreniform disorder, subchronic with acute exacerbation
295.44	ICD-9-CM	Schizophreniform disorder, chronic with acute exacerbation
295.45	ICD-9-CM	Schizophreniform disorder, in remission
295.5	ICD-9-CM	Latent schizophrenia
295.50	ICD-9-CM	Latent schizophrenia, unspecified
295.51	ICD-9-CM	Latent schizophrenia, subchronic
295.52	ICD-9-CM	Latent schizophrenia, chronic
295.53	ICD-9-CM	Latent schizophrenia, subchronic with acute exacerbation
295.54	ICD-9-CM	Latent schizophrenia, chronic with acute exacerbation
295.55	ICD-9-CM	Latent schizophrenia, in remission
295.6	ICD-9-CM	Schizophrenic disorder, residual type
295.60	ICD-9-CM	Schizophrenic disorders, residual type, unspecified
295.61	ICD-9-CM	Schizophrenic disorders, residual type, subchronic
295.62	ICD-9-CM	Schizophrenic disorders, residual type, chronic
295.63	ICD-9-CM	Schizophrenic disorders, residual type, subchronic with acute exacerbation
295.64	ICD-9-CM	Schizophrenic disorders, residual type, chronic with acute exacerbation
295.65	ICD-9-CM	Schizophrenic disorders, residual type, in remission
295.7	ICD-9-CM	Schizoaffective disorder
295.70	ICD-9-CM	Schizoaffective disorder, unspecified
295.71	ICD-9-CM	Schizoaffective disorder, subchronic
295.72	ICD-9-CM	Schizoaffective disorder, chronic
295.73	ICD-9-CM	Schizoaffective disorder, subchronic with acute exacerbation
295.74	ICD-9-CM	Schizoaffective disorder, chronic with acute exacerbation
295.75	ICD-9-CM	Schizoaffective disorder, in remission
295.8	ICD-9-CM	Other specified types of schizophrenia
295.80	ICD-9-CM	Other specified types of schizophrenia, unspecified
295.81	ICD-9-CM	Other specified types of schizophrenia, subchronic
295.82	ICD-9-CM	Other specified types of schizophrenia, chronic
295.83	ICD-9-CM	Other specified types of schizophrenia, subchronic with acute exacerbation
295.84	ICD-9-CM	Other specified types of schizophrenia, chronic with acute exacerbation
295.85	ICD-9-CM	Other specified types of schizophrenia, in remission

295.9	ICD-9-CM	Unspecified schizophrenia
295.90	ICD-9-CM	Unspecified schizophrenia, unspecified
295.91	ICD-9-CM	Unspecified schizophrenia, subchronic
295.92	ICD-9-CM	Unspecified schizophrenia, chronic
295.93	ICD-9-CM	Unspecified schizophrenia, subchronic with acute exacerbation
295.94	ICD-9-CM	Unspecified schizophrenia, chronic with acute exacerbation
295.95	ICD-9-CM	Unspecified schizophrenia, in remission
297	ICD-9-CM	Delusional disorder
297.0	ICD-9-CM	Paranoid state, simple
297.1	ICD-9-CM	Delusional disorder
297.2	ICD-9-CM	Paraphrenia
297.3	ICD-9-CM	Shared psychotic disorder
297.8	ICD-9-CM	Other specified paranoid states
297.9	ICD-9-CM	Unspecified paranoid state
298	ICD-9-CM	Other nonorganic psychoses
2980	ICD-9-CM	Depressive type psychosis
2981	ICD-9-CM	Excitative type psychosis
2982	ICD-9-CM	Reactive confusion
2983	ICD-9-CM	Acute paranoid reaction
2984	ICD-9-CM	Psychogenic paranoid psychosis
2988	ICD-9-CM	Other and unspecified reactive psychosis
2989	ICD-9-CM	Unspecified psychosis
F20	ICD-10-CM	Schizophrenia
F20.0	ICD-10-CM	Paranoid schizophrenia
F20.1	ICD-10-CM	Disorganized schizophrenia
F20.2	ICD-10-CM	Catatonic schizophrenia
F20.3	ICD-10-CM	Undifferentiated schizophrenia
F20.5	ICD-10-CM	Residual schizophrenia
F20.8	ICD-10-CM	Other schizophrenia
F20.81	ICD-10-CM	Schizophreniform disorder
F20.89	ICD-10-CM	Other schizophrenia
F20.9	ICD-10-CM	Schizophrenia, unspecified
F21	ICD-10-CM	Schizotypal disorder

F22	ICD-10-CM	Delusional disorder
F23	ICD-10-CM	Brief psychotic disorder
F24	ICD-10-CM	Shared psychotic disorder
F25	ICD-10-CM	Schizoaffective disorders
F25.0	ICD-10-CM	Schizoaffective disorder, bipolar type
F25.1	ICD-10-CM	Schizoaffective disorder, depressive type
F25.8	ICD-10-CM	Other schizoaffective disorders
F25.9	ICD-10-CM	Schizoaffective disorder, unspecified
F28	ICD-10-CM	Other psychotic disorder not due to a substance or known physiological condition
F29	ICD-10-CM	Unspecified psychosis not due to a substance or known physiological condition
F060	ICD-10-CM	Psychotic disorder with hallucinations due to known physiological condition
F062	ICD-10-CM	Psychotic disorder with delusions due to known physiological condition